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INDEX TO NORTH AMERICAN MYCOLOGICAL LITERATURE.

By David G. Fairchild.

113. Arthur, J. C. **Treatment for smut in wheat.** Bull. 32, Vol. II, July, 1890, pp. 1–10, Indiana Agr. Exp. Sta., La Fayette, Ind. Gives tests of vitality of seed wheat after treatment with Jensen hot-water method for smut. Finds 66° C. as maximum temperature at which the vitality of the seeds is retained and immersion for five minutes in water at a temperature of 57° C. to give the largest percentage of uninjured grains, considering high temperature. Recommends lengthening time of immersion with lowering of temperature and vice versa. No test of the method as to preventive power against smut. Gives percentages of stalks smutted with loose smut in counts of two varieties as 11.58 per cent. and 24.41 per cent.

114. ——— and Bolley, H. L. **The specific germ of the carnation disease.** Bot. Gaz., September, 1890, Vol. XV, No. 9, p. 231 Abstract of paper read by title before A. A. A. S. Botanical Section, August 19, 1890. Indicates demonstration of bacterial disease.

115. Atkinson, Geo. F. **A new Ramularia on cotton** (with figures). Bot. Gaz., Vol. XV., No. 7, July 22, 1890, p. 166. Describes and figures as new, *Ramularia areola*, n. s. on cotton, which differs from *R. serotina* and *R. virgaureæ* in having stouter conidia and hyphæ.

116. Bailey, L. H. **Report on the condition of fruit-growing in western New York.** Bull XIX, August, 1890, Cornell Agr. Exp. Sta., Ithaca, N. Y., pp. 45–58 (with figs) Notices as particularly abundant in 1890: *Fusicladium dendriticum*, (Wallr.) Fckl. on apples; *F. pyrinum*, (Lib.) Fckl. on pears. Quince and pear leaf blight, *Entomosporium maculatum*, Lév. *Taphrina deformans*, *Glœosporium venetum* or *G. necator*, *Sphærella fragariæ*, Sacc. and various grape diseases. Gives latest ideas in treatment of various maladies.

117. Beadle, D. W. **The apple scab.** Horticultural Art Journal, Rochester, N. Y. October, 1890, Vol. V, part 10, p. 82. Sums up work of L. R. Taft in Mich., Agr. Exp. Sta. in 1889 (*see* 104).

118. Bessey, Chas. E. **The completion of Saccardo's Sylloge Fungorum.** American Naturalist, July, 1890, XXIV, 283, p. 675. Reviews and commends the work, giving synopsis of orders with total numbers of species described, 31,927 in all.

119. Bolley, H. L. **Potato scab, a bacterial disease.** Bot. Gaz., September, 1890, Vol. XV, No. 9, p. 234. Abstract of paper read before A. A. A. S. Botanical Club, August 19, 1890. Gives histology and biology of disease, with outline of infection experiments performed.

120. ——— **Potato scab, a bacterial disease.** Agricultural Science, La Fayette, Ind., September 1890. Vol. IV, No. 9, pp. 243-256. Discusses at some length the theories regarding the nature and cause of the disease, viz., mechanical irritation, insect agencies, chemical erosion, excess of moisture, action of fungi. Follows with a record of original investigation, noting work of Dr. Brunchorst, of Sweden, who describes *Spongospora solani* as cause of the malady. Records results of various infection tests, inoculating young tubers in various ways with various species of bacteria found present in the diseased areas. Gives conclusive experiments to determine that disease is transmitted by the practice of planting scabby seed potatoes.

121. ——— *Ibid.* Oct. No. 10. pp. 277-287. Continues description by treating of separation and culture methods; infection or inoculation of growing tubers; characteristics of development upon artificial culture media; drop cultures; stick cultures; streak cultures; cultures on sliced cooked potatoes; effect of

121. Bolley, H. L.—Continued.
gases and of different degrees of temperature upon the development of the bacterium; name of bacterium, relation to the host, mode of attack. Gives plates III and IV with bibliography of disease.

122. Britton, N. L., and Hollick, Arthur. **List of Staten Island fungi in the collection of the Association.** Proc. Nat. Sci. Ass. of Staten Island. Special, No. 11, August 1890. *Basidiomycetes* 37, *Ascomycetes* 3, *Hypomycetes* 1. *Myxomycetes* 1. Determinations by J. B. Ellis.

123. Chester, F. D. **Diseases of the vine.** Bull. X, Delaware State Agricultural Exp. Sta., Newark, Del. 1890, pp. 8–32. Gives results of experiments at Smyrna with black-rot. Used Bordeaux mixture and saved 99.5 per cent. fruit in comparison with 84 per cent. unsprayed. Records use of ammoniated copper carbonate, copper carbonate and ammonium carbonate mixture, precipitated copper carbonate, and Bordeaux mixture against anthracnose, deciding the precipitated copper carbonate and Bordeaux mixtures as wholly effectual. Reports use of above copper mixtures with modified eau celeste and mixture No. 5, U. S. Dept. of Agr. against black-rot near Newark, also of study, by periodical bagging, of progress of disease in vineyards. Gives directions for preparing fungicides, prices of chemicals, and recommendations as to spraying apparatus.

124. Ellis, J. B., and Everhart, B. M. **New North American Fungi.** Reprint from proceedings of Academy of Natural Sciences of Philadelphia, July 29, 1890. Describes as new 100 species, mostly saprophytic, as follows: *Typhula subfasciculata*, *Stereum atrorubrum*, *Hymenochæte rugispora*, *Asterina rubicola*, *A. bignoniæ*, *Chaetomium pusillum*, *Myriococcum consimile*, *Calosphæria alnicola*, *C. microsperma*, *Cœlosphæria corticata*, *Diaporthe nivosa*, Ell. & Holw., *Valsa floriformis*, *V. glandulosa*, Cke., *V.* (*Eutypella*) *canodisca*, Ell. & Holw., *Pseudovalsa stylospora*, *Thyridaria fraxini*, *Cryptovalsa sparsa*, *Diatrype Macounii*, *D. Hochelagæ*, *Diatrypella vitis*, *D. Demetrionis*, *Ceratostomella mali*, *Ceratostoma juniperinum*, *C. parasiticum*, *C. conicum*, *Rosellinia albolanata*, *R. glandiformis*, *R. parasitica*, *R. Kellermanni*, *R. Langloisii*, *Anthostoma Ontariensis*, *Anthostomella ludoviciana*, Ell. & Lang., *Hypoxylon albocinctum*, *Poronia leporina*, *Physalospora zeicola*, *P. conica*, *P. pandani*, *Læstadia orientalis*, *L. apocyni*, *Sphærella conigena**, *S. spinicola*, *S. ciliata*, *S. angelicæ*, *S. macluræ*, *S. polifolia*, *Didymella Canadensis*, *D. cornuta*, *D. andropogonis*, *D. mali*, *Venturia parasitica*, *V. sabalicola*, *Diaporthe Columbiensis*, *D.* (*Euporthe*) *leucosarca*, *D. corinigera*, *D. comptoniæ*, *D. Americana*, Speg., *D. megalospora*, *Didymosphæria andropogonis*, E. & Lang., *Melanconis salicina*, *Valsaria salicina*, *Leptosphæria macluræ*, *L. steironematis*, *L. brunellæ*, *L. folliculata*, *Metasphæria rubida*, *Pleospora diaportheoides*, *P. hyalospora*, *Pyrenophora Zabriskieana*, *Fenestella amorpha*, *Ophiobolus trichisporus*, *O. medusæ*, *Melanomma Commonsii*, *M. tetonensis*, *M. parasiticum*, *Winteria tuberculifera*, *Cucurbitaria Kelseyi*, *C. fraxini*, *C. setosa*, *Teichospora mammoides*, *T. mycogena*, *T. umbonata*, *T. papillosa*, *T. megastega*, *T. Helenæ*, *T. Kansensis*, *Nectria diplocarpa*, *Hypocrea pallida*, *H. melaleuca*, *Calonectria Dearnessii*, *Thyronectria chrysogramma*, *Chilonectria crinigera*, *Nectria sambuci*, *N. athroa*, *N. mammoidea*, Phil. & Plow., *N. pithoides*, *N. sulphurata*, *Homostegia Kelseyi*, *Dothidea bigeloviæ*, *Plowrightia staphylina*, *P. symphoricarpi*, *Curreya shepherdiæ*.

125. Fairman, C. E. **Contributions to the mycology of western New York.** I. The fungi of western New York. Extract, Proc. Rochester Academy of Sciences, Vol. I, August, 1890, pp. 43–53, with plates 3 and 4. Notes the discovery in Orleans County of 425 species variously distributed among the different orders, with remarks on more common species. Remarks: *Septoria stellariæ*, R. & D., on

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* This is changed to *S. Andersoni*, as there is already an *S. conigena*, Pk.

125. FAIRMAN, C. E.—Continued.
Stellaria media. Phyllosticta cirsii, Desm., on *Cnicus arvensis, Corticium lividocœruleum*, Karst., *Tapesia rosæ* (Pers.) as new to this country. Appends list of 30 species or varieties, 17 of which are new. Those described as new are as follows: *Didymosphæria accedens*, Sacc. (with fig.) *Anthostomella eructans*, E. & E. (with fig.) *Lophiostoma rhopaloides*, Sacc. var *pluriseptata*, n. var., *Pseudovalsa Fairmani*, E. & E., *Vermicularia solanoica* n. s. on *Solanum dulcamara, Phoma Weldiana* n. s. on *Euonymus atropurpureus, Phoma albovestita*, n. s., *Phoma Lyndonvillensis*, n. s. on *Malva rotundifolia*, (with fig.) *Phoma rudbeckiæ*, n. s. on *Rudbeckia laciniata, Diplodia maura*, C. & E., var. *Americana*, Ell. on *Gyrus americana, Morthiera Thuemenii*, Cooke, var. *Sphærocysta* Pk. on *Crategus, Sphæropsis lappæ*, E. & E. on *Lappa major, Sporidesmium toruloides*, E. & E. on *Cornus, Mucor tæniæ*, n. s. on *Tænia solium* (with fig.) *Helotium fumosum*, E. & E. on *Leonurus cardiaca* and *Lappa major, Camarosporium acerinum*, E. &. E. on *Acer* limbs, *Tubulina cylindrica*, Bull., var. *acuta*, Peck.

126. FARLOW, W. G., AND SEYMOUR, A. B. **A provisional host index of the fungi of the United States, Part II. Gamopetalæ-Apetalæ**, Cambridge, Mass., September, 1890; pp. 53-133-Quarto. Part I, issued in 1888. Gives in most convenient form index of all published host plants, together with partial synonymy of different species of fungi. Myxomycetes are omitted from the list except when of more than usual interest. In cases of very common fungi occurring on many species of host plants the authors do not include all hosts, unless the fungus is of economic importance.

127. FORSTER, EDWARD J. **The Study of mushrooms.** Boston Medical and Surgical Journal, October 2, 1890. Reprinted leaflet. Gives, in reply to inquiries, a list of 14 works upon *Hymenomycetes* with special reference to esculent species. No reference made to periodical literature.

128. ———. **Mushrooms and mushroom poisoning.** Read at Ann. Meeting Mass. Med. Soc., June 11, 1890, Boston City Hospital. Pamphlet. Distinguishes, precisely, edible and poisonous forms (with figures), giving minute instructions as to habitats; adds a table of statistics of 44 cases of mushroom poisoning; concludes all known fatal cases caused by eating *Amanitæ;* gives as universal antidote atropia in full doses, $\frac{1}{8}$ of a grain, preceded by usual emetics and purgatives.

129. GALLOWAY, B. T. **New fields, the past and the future in the world of fungi.** American Garden, September 24, 1890; pp. 573-577. Times Building, New York. Gives in popular language a short history of Economic Mycology, with account of the extension in this country of the use of fungicides and fungicidal apparatus. Figures examples of treated and untreated plants, together with a new knapsack pump.

130. ———. **Some recent observations on black-rot of the grape.** Botanical Gazette, October 28, 1890, Vol. XV, No. 10, pp. 255-259. Records series of four experiments to establish connection of *Phyllosticta labruscæ*, Thüm., *P. ampelopsidis*, E. & M., and *Læstadia Bidwellii*, (Ell.) V. & R. States results of 200 inoculations of grape berries with leaf pycnidiospores and 200 inoculations of leaves with berry pycnidiospores as purely negative. Fifty inoculations of berries with berry pycnidiospores also produced no result; but both inoculations of *Ampelopsis* and *Vitis* leaves with ascospores from berries produced characteristic spots and pycnidia. Gives account of methods employed.

131. ———. **Preliminary notes on a new and destructive oat disease.** Botanical Gazette, September, 1890, Vol. XV, No. 9, p. 228. Abstract of paper read before Botanical Section A. A. A. S., August 19, 1890. Notes discovery of cause of the disease as a micro-organism, grown in various cultures.

132. ———. **Observations on the life-history of Uncinula spiralis.** *Ibid.* Abstract of paper given before Botanical Section A. A. A. S. Gives life-history and methods used to establish relationship between various forms.

133. GOLDEN, KATHERINE E. **Fermentation of bread.** Botanical Gazette, August 25, 1890, Vol. XV, No. 8, p. 204. Gives summary of previous work on the subject, with original investigation with plate culture methods. Finds in case examined *Saccharomyces cerevisiæ* and *Bacillus subtilis* (?) present in yeast, proving both to be able to raise bread sponges. Concludes yeast to be more effective in the production of gas in the sponges and Bacteria in the fluid cultures. Decides both to work together in producing the bread fermentation.

134. HALSTED, B. D. **Peronospora rubi, Rabenh., in America.** Botanical Gazette, Vol. XV, No. 7, July 22, 1890, p. 179. Notices first appearance of the fungus on cultivated raspberry in this country.

135. ———. **Some fungous diseases of the spinach.** Bull. 70, July 26, 1890. New Jersey Agr'l College Expt. Sta., New Brunswick, N. J., pp. 15 (with 21 figs.). Gives popularized descriptions with figures of *Peronospora effusa*, Rabenh., *Colletotrichium spinaceæ*, Ell. & Hals., *Phyllosticta chenopodii*, Sacc., *Entyloma Ellisii*, Hals., *Cladosporium macrocarpum*, Drew. Points out difficulty of treatment for diseases on account of nature of use to which spinach is put and recommends clean culture, destruction of weed host plants, and cautious use of chemical fungicides, also mixture of lime and sulphur with soil.

136. ———. **A dangerous enemy to the radish.** Garden and Forest, November 5, 1890, Vol. III, No. 141, p. 541. New York City. Notes great injury to crop by a species of *Plasmodiophora*, thought to be identical or nearly related to that causing club-root of cabbage.

137. ———. **The rot among late potatoes.** Garden and Forest, November 12, 1890. No. 142, Vol. III, p. 551. Shows danger from *P. infestans* in late planting of potato

138. ———. **Effect of forest management on orchards.** Garden and Forest, October 8, 1890, Vol. III, No. 137, p. 487. Discusses injurious proximity of cedar trees bearing the fungus *Gymnosporangium*, citing marked case of injury. Notes black-knot of plum and blackberry rust in connection.

139. ———. **The egg-plant blight.** Garden and Forest, September 17, 1890, Vol. III, No. 134, p. 457. Notes destructive occurrence of *Phyllosticta hortorum*, Speg. upon leaves and fruit of egg-plant. Remarks its especially destructive nature in Gloucester County, N. J. Thinks it can be checked by the copper mixtures.

140. ———. **The celery blight.** Garden and Forest, October 1, 1890, Vol. III, No. 136, p. 141. Notes destructive abundance of *Cercospora apii* in Mercer County, N. J., its habit of thriving in dry weather; suggests use of ammoniacal copper carbonate and shading with lath as remedies.

141. ———. **Cedar galls and rust on apple leaves.** Cult. and Country Gentleman, Albany, N. Y., October 2, 1890, Vol. LV, No. 1966, p. 780. Notes destructive abundance of apple rust (*Ræstelia*) in orchards in Mercer County, N. J. Explained by proximity of cedar trees affected by cedar galls (*Gymnosporangium*).

142. ———. **Sweet potato rot in New Jersey.** The soil rot. Cult. and Country Gentleman, October 9, 1890, p. 796, Vol. LV, No. 1967. Describes the fungus as living in the soil from year to year and records cases of spread from diseased fields to healthy ones.

143. ———. **Smut in grain.** Cult. and Country Gentleman, Albany, N. Y., March 6, 1890, Vol. LV, No. 1936, p. 184. Gives description of Jensen's hot-water treatment in prevention, referring to work in Kansas by Kellerman and Swingle (see No. 156).

144. ———. **Sundry sweet potato rots.** Cult. and Country Gentleman, April 10, 1890, Vol. LV, No. 1941, p. 286. Notes five kinds of rot of sweet potatoes with suggestions as to treatment.

145. ———. **Canada thistle rusting out.** American Agriculturist, August, 1890, Vol. XLIX, No. 8, p. 402. Notes destruction of Canada thistle about New Brunswick, N. J., through the attacks of the rust (*Puccinia suaveolens*, (*Pers.*) *Wint.*).

146. HARKNESS, H. W. **Dangerous fungi.** Zoë, San Francisco, Cal., July, 1890, Vol. I, No. 5, p. 150. Gives localities in California where *Peronospora viticola*, *Plowrightia morbosa*, *Taphrina* (*Exoascus*) *pruni* are destructive. Notes freedom of *Prunus ilicifolia* from disease.

147. ——— **Fungi collected by T. S. Brandegee in Lower California.** Proc. Cal. Acad. Sci., Second Series, Vol. II, 1889, December 20, 1889 (distributed 1890). Names 14 species, describing as new, *Puccinia ornata*, Hark. with Plate XII on *Tacoma stans*, Commondu. Related to *P. medusæ*, Speg., differing in size.

148. HARVEY, F. L. **The potato rot** (*P. infestans*). Ann. Rep. Maine Ag. Exp. Sta., 1889 (1890), Bangor, Me., pp. 173, 181 (with plate by C. H. Fernald figuring so-called oospores). Gives origin, history, primary causes, secondary causes, conditions of growth, description, life-history, and remedies, direct and preventive.

149. ———. **Apple scab.** *Ibid.*, pp. 182, 184 (with plate copied from U. S. Dept. of Ag. Report, 1887). Reviews work done by Taft in Michigan and Goff in Wisconsin (see 42 and 104).

150. HICKMAN, J. F. **Smut in wheat.** Bull. Ohio Ag. Exp. Sta., Second Series, Vol. III, No. 6, July, 1890, p. 205. Reports unusual abundance of stinking smut, with table of percentages of smut estimated in field; and counts of the number of smutted grains in 1,000 grains after threshing, also result of use of too strong solution of copper sulphate.

151. HOWELL, MISS J. K. **Trimorphism in Uromyces trifolii.** Bot. Gaz., September, 1890, Vol. XV, No. 9, p. 228. Abstract of paper read before A. A. A. S. Botanical Section, August 19, 1890. Records cultures made to determine connection of the three forms. Finds æcidiospores germinating throughout the winter. Proves the relationship beyond question.

152. HUMPHREY, J. E. **Mildews.** Trans. Mass. Hort. Soc. 1889, Pt. I, 1890, Boston, Mass., pp. 40, 52. Gives statement of object of new department of vegetable physiology connected with station. Describes in clear popular language the growth, life-history, and means of combating the powdery mildews (*Peronosporaceæ*). Notes *Pythophthora infestans*, DBy., *Peronospora viticola*, B. & C., *P. gangliformis*, Tul., *P. graminicola*, Sacc. on Hungarian grass or millet, *P. Schleideniana*, Ung.

153 KEAN, A. L. **On the nature of certain plant diseases.** Bot. Gaz., Vol. XV, No. 7, July 22, 1890, p. 171. Notices peculiar habits of *Rhizopus nigricans* with reference to parasitism on sweet potatoes. Claims the discovery of an active "ferment," excreted by fungal hyphæ, which precedes the growth of the hyphæ, breaking down the tissue. Mentions alcoholic precipitate as poisonous to healthy tissue. Thinks such fungi not truly parasitic, but dependent upon chemical agents for their disease causing power. Refers to H. M. Ward's lily disease in Ann. Bot., May, 1889.

154. KELLERMAN, W. A. **Prevention of smut in cereals.** Agricultural Science, Vol. IV, No. 4, April, 1890, pp. 99-101. Lafayette, Ind., gives account of Jensen hot-water method of prevention with modification found necessary for barley, consisting in soaking the seed eight hours in cold water before plunging into hot water.

155. ———. **Prevention of stinking smut in wheat.** Industrialist, Manhattan, Kans., October 4, 1890, Vol. XVI, No. 3, p. 9. Reproduction of description of Jensen hot-water method to prevent smut contained in Bull. 12, Bot. Department, Kans., Ag. Coll. Exp. Sta., August, 1890 (see No. 157).

156. ——— AND SWINGLE, W. T. **Report on the loose smuts of cereals.** Report of Botanical Department. Extract from Annual Rep. Kans. State Ag. Exp. Sta., Manhattan, Kans., 1890, pp. 213-288, Plates I to IX. Gives most thorough treatment of the whole subject, including synonomy of loose smuts; splitting up the hitherto well-known *Ustilago segetum*, (Bull.) Ditm. or *Ustil-*

156. KELLERMAN, W. A., AND SWINGLE, W. T.—Continued
ago carbo, (DC.) Tul., indiscriminately called, into *Ustilago avenæ*, (Pers.) Jensen (oat smut); *Ustilago tritici*, (Pers.) Jensen, (loose smut of wheat); *Ustilago hordei*, (Pers.) Kellerman and Swingle (covered barley smut); *Ustilago nuda*, (Jensen) Kellerman and Swingle (naked barley smut); of *Ustilago avenæ* (Plates I, IV, V), gives history, synonomy, injuries to host plant, different varieties attacked, amount of damage (in general over 8 per cent., at Manhattan, Kans., 10 per cent.), geographical distribution, botanic and microscopic characters of the smut, germination of spores in water, germination of spores in nutrient solutions, infection of the host plant (historical), methods of treatment (mechanical, chemical, and physical, with description of Jensen's hot-water method and report of successful experiment with same): notes a new form of oat smut (*Ustilago avenæ* var. *levis*, Kell. and Swingle.) Of *Ustilago tritici*, (Pers.) Jensen (Plates II and VI), history, synonomy, injuries to host plant, geographical distribution, characters of the smut, germination of spores in water, germination of spores in nutrient solutions, prevention. Of *Ustilago hordei*, (Pers.) Kell. and Swing. (Plates II and VII), gives history, synonomy, nature of injuries to host plant, geographical distribution, characters of the smut, germination in water, germination in nutrient solution, manner of infection of host plant, methods of prevention. Of *Ustilago nuda*, (Jensen) Kell. and Swing., gives history, synonomy, injuries to host plant, geographical distribution, botanical and microscopic characters of the smut, germination of spores in water, germination of spores in nutrient solution, manner of entering the host plant, methods of prevention. Natural enemies of the smut (Plate IX), *Fusarium ustilaginis*, Kell. and Swing. *Macrosporium utile*, Kell. and Swing., *Bacterium* (?) sp. Smut-eating beetles, *Phalacrus politus* or *penicillatus* and *Brachytareus variegatus*, Say. Gives note also on stinking smut of wheat (Plate III), caused by *Tilletia fœtens*, (B. and C.) Trel. and *Tilletia tritici*, (Bjerk.) Wint.

157. ———. **Preliminary experiments with fungicides for stinking smut of wheat.** Bull. No. 12, August, 1890. Kansas State Agr. Exp. Sta., Manhattan, Kans., pp. 27–51 with Plate I. Give as introduction, amount of damage, cause of disease, growth of characters of parasite, germination of spores, comparison of loose and stinking smut, mode of infection. Report on use of 51 different treatments for disease, deciding Jensen hot-water method most successful (see p. 117 this number of the JOURNAL.)

158. LONG, E. A. **Plum-leaf blight or shot-hole fungus.** Pop. Gardening, Buffalo, N. Y., Vol. V, No. 12, p. 249, 1890. Notes *Septoria cerasina*, Pk. (with sketch). Recommends burning dead leaves, and spraying early in season with Bordeaux mixture.

159. MCMILLAN, CONWAY. **Note on a new species of Actinoceps, B. and Br.** American Naturalist, August, 1890. Vol. XXIV, No. 284, p. 777–779. Describes as new *Actinoceps Besseyi*, McM. found on putrid orange skin among bacteria, thinking difference in size of stipe and head sufficient to separate it from *Actinoceps Thwaitesii*, B. &. Br.

160. MEEHAN, THOMAS. **Fairy rings.** Cult. and Country Gentleman, Albany, N. Y., January 16, 1890, Vol. LV, No. 1929, p. 48. Gives history and description, referring cause to species of *Agaricini*, varying with different cases. Divides rings into two classes: one with dead grass in center, other with ring only.

161. PAMMELL, L. H. **Treatment of fungous diseases.** Orange Judd Farmer, Chicago, Ill., November 1, 1890, Vol. VIII, No. 18, p. 277, ½ column. Notices shortly history of growth of this line of mycology.

162. ——— **Pear-leaf blight.** Orange Judd Farmer, Chicago, Ill., October 25, 1890, p. 261, Vol. VIII, No. 17. Gives extended notice of work of U. S. Dept. of Agr. against *Entomosporium maculatum*, Lév. in season 1889–1890 (see No. 11).

163. ———. **Pear or fire blight.** Orange Judd Farmer, Chicago, Ill. Vol. VIII, No. 13, September 27, 1890, p. 197. Gives short history with observations and recommendations of treatment.

164. ——— **Strawberry-leaf blight.** Orange Judd Farmer, Chicago, Ill., August 23, 1890, Vol. VIII, No. 8, p. 115 (with figures). Gives popular exposition of disease caused by *Sphærella fragariæ* Sacc., methods which have been used and recommended in its treatment.

165. ——— **Strawberry-leaf blight..** Iowa State Register, Des Moines, Oct. 17, 1890, p. 7. Gives popular description with recommendations for treatment, viz, garden hygiene and fungicides, making reference to work of U. S. Dept. of Agr.

166. PANTON, J. HOYES. **Black-knot on plums.** Bull. LII., January 16, 1890. Guelph, Ontario. Describes the fungus popularly. Recommends destruction of diseased parts and removal of wild choke-cherry trees adjacent to orchards.

167. PECK, CHARLES H. **A. Plants added to the herbarium. C. Plants not before reported. D. Remarks and observations. E. New York species of Armillaria. F. Communication by P. H. Dudley in reference to decay of railroad ties.** Ann. Rep. State Botanist of New York, from 43 Rep. of N. Y. State Museum of Nat. History, Albany, N. Y., March 21, 1890; pp. 1–54, with 4 plates. Gives the usual list of additions to the herbarium, with notes on destructiveness of *Monilia fructigena, Glœosporium ribis, G. lagenarium, G. Lindemuthianum, Rhopalomyces cucurbitarum, Pernospora viticola, Phytophthora infestans* (with trials of Bordeaux and methods of deep planting to prevent the disease). Notes disease of oats in St. Lawrence County, thought to be due to *Fusicladium destruens*, n. s. and describes forty-two new species of fungi with numerous valuable notes upon old and new species, adding a short monograph of the eight known New York species of *Armillaria.* Appends interesting letter from P. H. Dudley upon fungi attacking railroad ties and other timbers. The species described as new are as follows: *Tricholoma grave* (with figs.), *Clitocybe multiceps, Coprinus brassicæ* (with figs.), *Cortinarius* (*Phlegmacium*) *glutinosus, C.* (*Inoloma*) *annulatus* (with figs.), *C.* (*Dermocybe*) *luteus, C.* (*Telamonia*) *paludosus, Lactarius subinsulsus, L. mutabilis* (with figs.), *Russula brevipes* (with figs.), *Marasmius albiceps* (with figs.), *Poria aurea, Irpex rimosus, Corticium mutatum, C. subaurantiacum, C. basale, Peniophora unicolor, Clavaria similis, Comatricha longa* (with figs.), *C. subcæspitosa* (with figs.), *Phyllosticta bicolor* on *Rubus odoratus, P. prini* on *Ilex verticillata, P. silenes* on *S. antirrhina, Phoma allantella* on *Quercus rubra, Plasmopara viburni* on *Viburnum dentatum, Sporotrichum cinereum, Coniosporium polytrichi, Stachybotrys elongata* (with figs.), *Dematium parasiticum, Fusicladium destruens* (with figs.) on *Avena sativa, Macrosporium polytrichi, Tubercularia carpogena, Fusarium sclerodermatis, Glœosporium leptospermum,* UNDERWOODIA gen. nov., *U. columnaris* (with figs.), *Helotium mycetophilum, Hæmatomyces faginea* (with figs.), *Eutypella longirostris* (with figs.), *Lepiota farinosa, Pholiota æruginosa, Phellorina Californica.*

168. PORTER, MISS E. **Notes on spore discharge of ascomycetes.** Bull. Torrey Bot. Club., New York, September, 1890, Vol. XVII, No. 9, p. 238. Abstract of paper read August 26, 1890, before Botanical Club of A. A. A. S., Indianapolis, Ind. Gives observations of this process in *Pleospora.*

169. REX. GEORGE A. **A remarkable variation of Stemonitis Bauerlinii, Mass.** Proc. Nat. Sci. Ass'n, Staten Island, No. 11, August, 1890. Notes curious case of reversion of an extremely variant form to the original Stemonitis type. Records the variation as *S. Bauerlinii* var. *fenestrata,* Rex.

170. RUSSELL, H. L. **Penicillium and corrosive sublimate.** Bot. Gaz., August 25, 1890. Vol. XV, No. 8, p. 211. Notes Dr. Coulter's remark in March number of Gazette, giving plate-culture tests with percentage solutions of mercuric chloride. Finds the fungus no more able to stand presence of germicide than other species, when the latter is thoroughly mixed in the media.

171. SCRIBNER, F. L. **Pear scab.** Orchard and Garden, Little Silver, N. J., August, 1890, Vol. XII, No. 8 (with figs.). Gives description of disease caused by *F. dendriticum*, (Wallr.) Fckl., considering the latter synonymous with *F. pyrinum*, (Lib.) Fckl. Shows necessity of early spraying. Recommends ammoniacal copper carbonate.

172. ——— **The powdery mildew of the rose.** Ibid, p. 144 (with figs.). Describes disease carefully, giving for remedies sulphur and potassium sulphide.

173. SOUTHWORTH, MISS E. A. **A new hollyhock disease.** Bull Torr. Bot. Club, Vol. XVII. No. 9, September, 1890, p. 235, N. Y. Notice of paper read by B. T. Galloway before Botanical Club A. A. A. S., Indianapolis, Ind., August, 1890. Describes diseases as caused by *Colletotrichium althææ*, n. s.

174. WEED, C. M. **The potato blight.** Am. Agriculturist, New York. Vol. XLIX, No. 7, p. 360. Notes successful attempts to control ravages of *Phytophthora infestans* with the Bordeaux mixture. Gives formulæ and method of treatment.

175. ———. **An experiment in preventing the injuries of potato rot.** Sci. Am., April 5, 1890, Vol. LXII, No. 14, N. Y., p. 217.

176. YEOMANS, W. H. **Bean rust and other fungous diseases.** Popular Gardening, Buffalo, N. Y., November, 1890, Vol. VI, No. 2, p. 27. Notes very destructive fungous diseases of bean leaves. Scientific name not given.